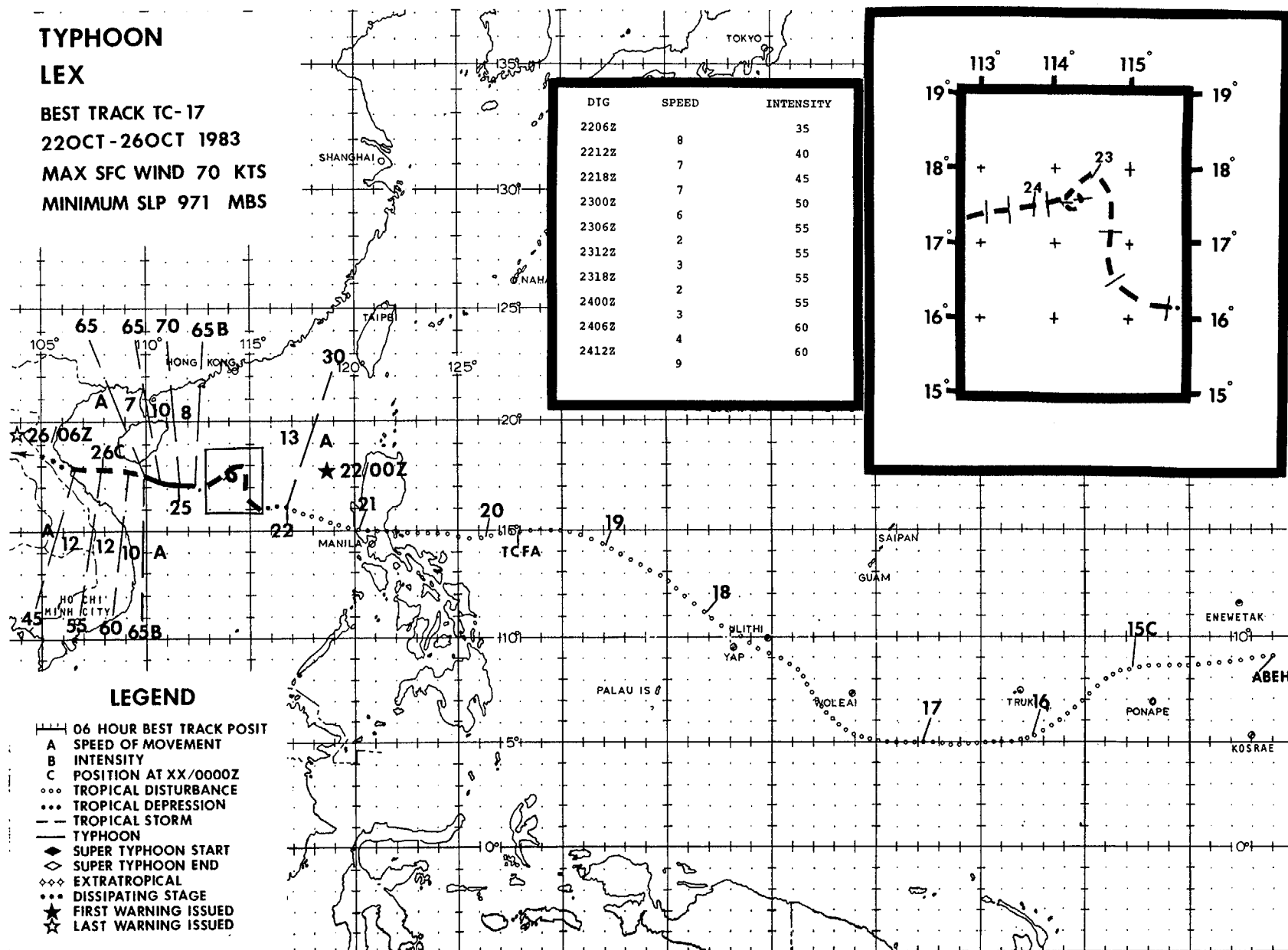
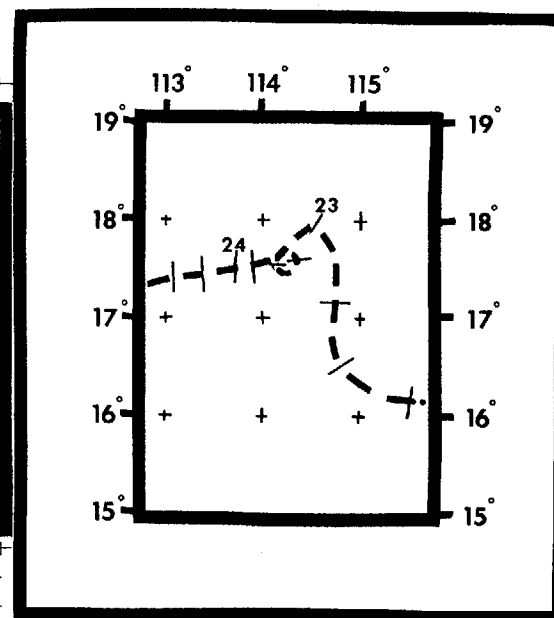


TYPHOON LEX

BEST TRACK TC-17
22OCT-26OCT 1983
MAX SFC WIND 70 KTS
MINIMUM SLP 971 MBS

DTG	SPEED	INTENSITY
2206Z		35
2212Z	8	40
2218Z	7	45
2300Z	7	50
2306Z	6	55
2312Z	2	55
2318Z	3	55
2400Z	2	55
2406Z	3	60
2412Z	4	60
	9	60



TYPHOON LEX (17W)

The tropical disturbance which became Lex was extremely slow in developing and achieved Typhoon intensity for a period of only one day. Yet it was one of the most damaging cyclones of the season, responsible for the loss of a ship in the South China Sea and extensive suffering in central Vietnam where it eventually made landfall.

Lex was monitored as a tropical disturbance for eight days prior to issuance of the first warning on the system as a tropical depression. It was first detected in the vicinity of the Marshall Islands on 14 October when satellite imagery revealed the presence of an area of active convection near 9N 164E. Synoptic data in the area at this time indicated that there was not a surface circulation associated with the disturbance but did indicate a 24-hour drop of one to two millibars in sea-level pressure at nearby stations.

The disturbance underwent diurnal fluctuations in its convection as it moved westward but showed no signs of increasing in intensity until the 16th. On the 16th, while located near Truk (WMO 91334) at 5N 151E, an upper-level anticyclone began to develop over the disturbance and the system became better organized.

Over the next three days, the disturbance continued to intensify slowly as it moved westward across the Philippine Sea. Satellite imagery during this period indicated that the upper-level anticyclone was continuing to develop and that convective activity associated with the disturbance was increasing in size, organization, and intensity. Synoptic data indicated the presence of a weak 10 to 15 kt (5 to 8 m/s) surface circulation with an MSLP of 1008 mb.

A TCFA was issued for this disturbance at 192000Z as it approached the Philippines approximately 180 nm (333 km) northeast of Cataduenas Island. A reconnaissance aircraft was dispatched to the area at this time but was unable to close off a surface circulation. The alert was reissued twice as JTWC monitored the progress of this disturbance while it was crossing the central Philippines. The topography of the Philippine Islands had little effect on the disturbance and it emerged in the South China Sea with no appreciable decrease in its organization.

Lex began to intensify while moving west-northwestward away from Luzon. The first warning on Lex was issued on the 22nd at 0000Z when satellite imagery indicated that the cloud bands associated with the system were taking on a comma-shaped appearance. Although Lex was designated as a tropical depression on the initial warning, upgrade to tropical storm status followed quickly when a reconnaissance aircraft encountered 35 kt (18 m/s) winds while fixing the system at 220535Z.

Lex was expected to continue intensify-

ing slowly and move west-northwestward toward Hai-Nan island along the southern periphery of the subtropical ridge. This scenario appeared to be inaccurate when Lex began moving slowly northward after 220600Z. This slow northward movement culminated in a counter-clockwise loop near 17.5N 114.5E, approximately 300 nm (556 km) south of Hong Kong. The movement of Lex during this period was in response to the passage of a developing mid-level trough over China. This trough penetrated farther to the south than was expected, causing a weakness to develop in the subtropical ridge to the north of Lex. It appeared that this trough would cause a complete breakdown of the ridge to the north of Lex, allowing the storm to drift northward toward Hong Kong. Figure 3-17-1 shows the position of this trough as Lex began its cyclonic loop. The interaction of Lex with this trough was also apparent in satellite imagery at the time (Figure 3-17-2). Twelve hours after this scenario was adopted on the 230600Z warning, the subtropical ridge re-established itself to the north of Lex and the storm resumed a westward track.

Lex intensified while moving westward, reaching a maximum intensity of 70 kt (36 m/s) at 0000Z on the 25th. Gradual weakening occurred over the next 24 hours as Lex passed to the south of Hai-Nan island. The interaction of the circulation with the rugged terrain of Hai-Nan had a pronounced effect on the system. The decrease in organization and convection, apparent from satellite imagery, led to the downgrade of Lex to tropical storm status at 251800Z. Lex weakened further while transiting the Gulf of Tonkin, making landfall near Dong Hoi, Vietnam with maximum sustained winds of 50 kt (26 m/s). Lex dissipated rapidly over the rugged terrain of central Vietnam and Laos after causing extensive damage to low-lying areas in its path.

According to preliminary reports from Vietnam, areas near the point of landfall were devastated by the high winds and torrential rains associated with Lex. Damage was extensive as rivers rose six feet (2 m), resulting in widespread flooding. Hundreds of people were killed or injured, 17,000 homes were destroyed, and six hospitals were seriously damaged. In addition, an estimated 100,000 tons of starch food may have been lost due to the flooding.

Other damage caused by Lex came to light after the dissipation of the storm. The oil drilling ship, Glomar Java Sea, was operating in the vicinity of Hai-Nan island during the passage of Lex. A search was conducted for the ship after radio contact was lost during the storm. The 5,926 ton vessel was finally located using sonar under 300 ft (91 m) of water about 60 nm (111 km) south of Hai-Nan island. There have been no reports of survivors from the crew of 81.

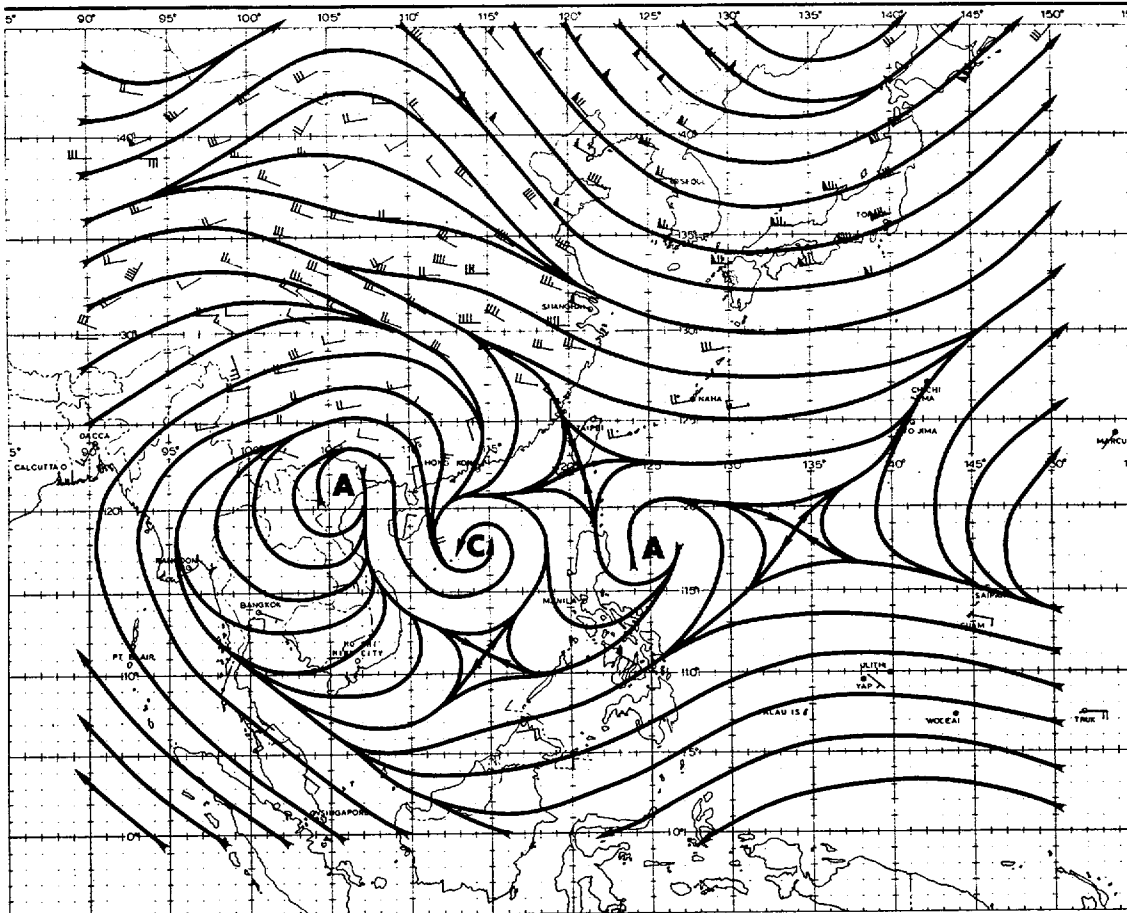


Figure 3-17-1. Orientation of the mid-level trough which briefly interacted with Lex (230000Z October 500 mb analysis).

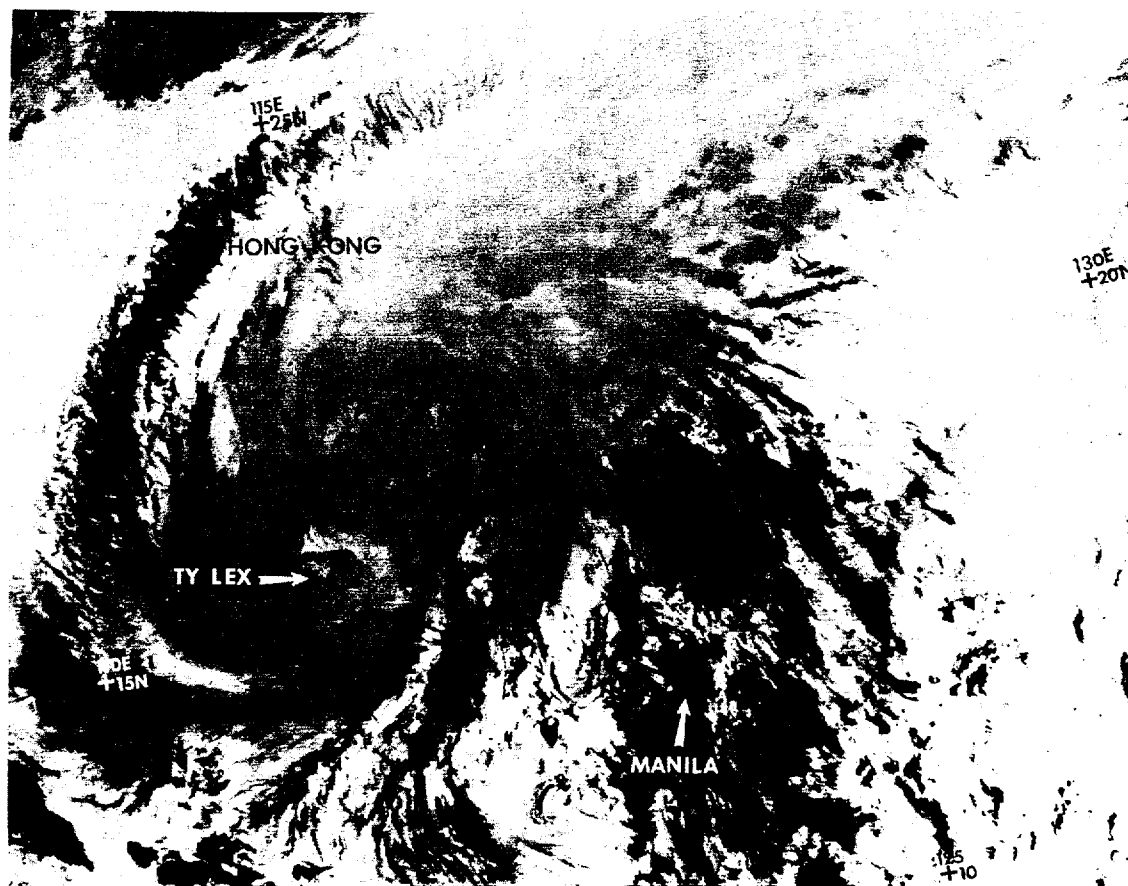


Figure 3-17-2. Lex as a tropical storm while undergoing a cyclonic loop (231026Z October DMSP infrared imagery).